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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,796	02/08/2000	Norm D. Schlaegel	A-68724/AJT	4387

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EXAMINER

DABNEY, PHYLESHA LARVINIA

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 07/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/501,796

Applicant(s)

SCHLAEGEL, NORM D.

Examiner

Phylesha L Dabney

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

This action is in response to the amendment filed on 5 May 2003 in which claims 1-16 are pending.

Terminal Disclaimer

1. The terminal disclaimer filed on 5 May 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of applications listed in paper no. 10 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over G.W. French (U.S. Patent No. 2,573,132), in view of Antle (U.S. Patent No. 4,499,593).

Regarding claim 1, French '132 discloses an electro-acoustic system comprising: a fitted earmold (1) having a sound-conduction bore (7); a sound-conduction tube (2, 8) having a passage; and a speaker (14). French '132 inherently teaches an electrical cable (14'), since French '132 (col. 1 lines 5-15) is an improvement over French (U.S. Patent No. 2,545,731) and

Art Unit: 2643

French `731 teaches a cord (2). French `132 does not teach an electrical plug connected to the other end of the electrical cable for electrical connection to an electrical sound-generating member. Antle teaches a type of electrical plug (44, 46, 48) attached to an electrical cable (38) for insertion into a sound producing system (col. 4 lines 40-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the electrical plug of Antle to the electrical cable of French `132 for insertion into a sound producing system. Furthermore, the combination of French and Antle does not specifically teach the earmold conforming to the user's ear; however, since the combination of French and Antle does not limit the type of plastic material used to construct the earmold and it is known in the art to use hard or soft plastics, such as acrylics (hard) or silicone (soft, flexible, conformable), to construct earmolds. It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the earmold of a soft, flexible, conforming material, such as silicone, to provide comfort to the user and prevent amplified sound from escaping the ear canal resulting in acoustic feedback.

Regarding claim 2, French `132 teaches the speaker coupled to the sound conduction tube (8) by a housing (12-14).

Regarding claim 3, French `132 teaches a connector (2) having an inner end and an outer end.

Regarding claim 4, as shown in fig. 2, French `132 teaches the bore (7) having an entry section and exit section.

Regarding claim 14, Neither French `132 nor French (U.S. Patent No. 2,545,731) teach the specifics of the electrical cable used; however, it is extremely well known in the art to use

Art Unit: 2643

coiled electrical cables because they are less cumbersome. In addition, Antle teaches a type of electrical cable having a coiled section (38) for use with a sound producing system. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a coiled cable such as the one disclosed by Antle in the invention of French `132 for transferring electrical signals.

Regarding claim 15, Antle teaches an electrical cable (38) having an electrical connector (40) attached thereto

3. Claims 5-10, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over G.W. French (U.S. Patent No. 2,573,132), in view of Antle (U.S. Patent No. 4,499,593), and in further view of Schlaegel et al (U.S. Patent No. 5,753,870).

Regarding claim 5, the combination of French `132 and Antle does not teach the specific structure of the earmold or connecting tube. Schlaegel teaches a specific structure for an earmold including a seating member (12a, 12b) as a means for securing a specific type of connecting tube (18). Since French `132 does not suggest or exclude any type of earmold structure, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the earmold structure of Schlaegel including a seating member could have been used in the combination of French `132 and Antle as a means of securing the specific type of connecting tube presented by Schlaegel inside the earmold.

Regarding claims 6-7, Schlaegel teaches the specific type of connector (18) including an elbow configuration (fig. 3) and includes a tubing-receiving section (24), a latching section (22, 32, 34), and a passage (30).

Art Unit: 2643

Regarding claim 8, the combination of French '132 and Antle does not specifically teach the diameter of the conduction tubing, passage, or exit section of the bore as being the same. Schlaegel teaches maintaining the diameter of the conduction tubing, passage, and exit section the same (col. 2 lines 56-60 and col. 3 lines 10-12). Since the combination of French '132 and Antle does not suggest or exclude any diameter for the electro-acoustic system, it would have been obvious to one of ordinary skill in the art at the time the invention was made that keeping the diameter of the tubing, passage, and exit section the same as taught by Schlaegel could have been used in the combination of French '132 and Antle as a means of acoustic characteristics of the system.

Regarding claim 9, Schlaegel teaches a filter (40) disposed in the tubing-receiving section (24).

Regarding claim 10, Schlaegel teaches the tubing receiving section (24) having a shoulder (28).

Regarding claim 12, Schlaegel teaches the latching section (22, 32, 34) has an annular recess and an annular barb (32).

Regarding claim 13, Schlaegel teaches a space (12b) provided in the entry section, and a nubbin (22) is disposed within the space.

4. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over G.W. French (U.S. Patent No. 2,573,132), in view of Antle (U.S. Patent No. 4,499,593), and in further view of Major (U. S. Patent No. 5,488,205).

Art Unit: 2643

Regarding claim 5, the combination of French '132 and Antle does not teach the specific structure of the earmold or connecting tube. Major teaches a specific structure of: an earmold including a seating member (24) as a means for securing a specific type of connecting tube (12). Since the combination of French '132 and Antle does not suggest or exclude any type of earmold structure, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the earmold structure of Major including a seating member could have been used in the combination of French '132 and Antle as a means of securing the specific type of connecting tube presented by Major inside the earmold.

Regarding claim 11, as shown in figs. 1-4, Major teaches the seating member (24) having an annular section (figures 1-4, and col. 3 lines 50-51) and an annular shoulder (27).

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over G.W. French (U.S. Patent No. 2,573,132), in view of Antle (U.S. Patent No. 4,499,593), and in further view of Kakiuchi (U.S. Patent No. 4,829,571).

Regarding claim 16, the rejection of claim 1 above teaches all of the limitations except duplication of the earmold with a sound bore, the sound-conducting tube, the speaker, and electrical cable for use in the other ear simultaneously with the first electro-acoustic system disclosed in claim 1; and a binaural electrical plug. However, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art (St. Regis Paper Co. v. Bemis Co., 193 USPQ 8), it would have been obvious to one of ordinary skill in the art at the time the invention was made to place a second earmold with a sound bore, sound-conducting tube, speaker, and electrical cable configuration adjacent the other ear for the purpose

Art Unit: 2643

of formulating a binaural hearing aid system. As referenced in claim 1, the combination of French and Antle does not teach the specific type of plug used to attach to a sound producing system. Kakiuchi teaches a binaural electrical plug for receiving left and right input signals for transmission to left and right ear speakers for providing stereophonic sound. Therefore, it would have been obvious to one of ordinary skill in the art to use a binaural plug in the combination of French and Antle as taught by Kakiuchi for providing stereophonic sound.

Response to Arguments

6. Applicant's arguments filed have been fully considered but they are not persuasive.

7. With respect to applicant's arguments, the examiner disagrees with the applicant's position that the present application overcomes the prior art cited. The limitations that the earmold "be specifically designed to the user's ear" and "fit the ear" and "the earmold...be tailored to a specific person's ear" are not present in the claims. The French reference satisfies the requirement that the earmold be able to "fit in the ear" as claimed.

8. With respect to the applicant's argument that the prior art does not teach an earmold molded to "a particular shape that it retains after being exposed to a pressure or deformable force." These limitations are not in the claim. In addition, it is known to use soft, flexible materials, such as silicone, to construct earmolds of a particular shape. The fact that silicon is a rubbery polymeric material allows it to deform under pressure, expand to fill the ear canal, and return to its manufactured shape when force is removed. Furthermore, it is noted that the applicant also allows the material used for the earmold to be a rigid plastic (page 3 line 9).

Art Unit: 2643

Acrylic is a known rigid plastic (a number of earmold materials and specific earmold shapes can be found in the web print out listed below).

9. With respect to the applicant's argument that the prior art does not teach an earmold capable of preventing amplified sound from escaping the ear canal. The examiner is allowed to rely on personal knowledge. Earmolds are known to expand in the ear, which causes them to abut the sides of the ear canal and prevent sound from leaking out of the canal, as well as, prevention surround sound from interfering with the sound signal. In addition, earmolds are being made of deformable, resilient expandable material to cushion when the user jaw is moving from talking, chewing, etc.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

[http://: www.earmolddesign.com](http://www.earmolddesign.com). Catalog index include information on earmold design.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2643

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L Dabney whose telephone number is 703-306-5415. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:


(703) 872-9314, for formal communications intended for entry and for informal or draft communications, please label "Proposed" or "Draft" when submitting an informal amendment.

(703) 306-0377, for customer service questions.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

PLD


July 17, 2003


CURTIS KUNTZ
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